YUKON AGRICULTURE

State of the Industry

1994 – 1995

104-03944/

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State of the Industry: 1994 – 1995

Department of Renewable Resources
March, 1996

Report No. TR-96-01

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INTRODUCTION

The purpose of this document is to provide the clients of the Agriculture Branch with a status report on the implementation of agricultural programs, services and policies administered by the Yukon and federal governments, as well as a summary of initiatives taken by the private and non-government agricultural sectors. The clients of the Agriculture Branch include individual farmers, non-government organizations like the Yukon Agriculture Association, agricultural land applicants, other government departments, and interested members of the public.

This report provides a summary of activities and developments in the agriculture sector of the Yukon economy during the calendar years of 1994 and 1995. Highlights during this period included:

- increased public awareness through community fall fairs
- commencement of a Yukon Agriculture Association Strategic Plan
- transfer of agricultural land administration to the Yukon Agriculture Branch
- completion of a new Yukon Game Farming Policy and Regulations
- the issuance of 27 new agricultural titles totalling 1,141 ha
- a 15 percent increase in the total number of farms to an estimated 160
- Yukon participation in the formation of the First Circumpolar Agriculture Association

Industry growth continued over the past two years. The Yukon now supports an estimated 160 farms with an average size of 55 hectares. An estimated 8,800 hectares are devoted to farmland, approximately 5,280 of which are in production or under development. Actual figures will be available following the next agriculture census to be conducted in 1996.

The focus of the agriculture industry over the past two years remained infrastructure development and marketing programs. The Yukon Agricultural Association devoted many hours and resources pursuing the concept of building an abattoir. Community Fall Fairs were held in Whitehorse, Carmacks, Watson Lake, and the Hamlet of Mount Lorne, and proved to be a valuable tool for raising public awareness of Yukon agricultural programs and activities.

THE AGRICULTURAL LAND BASE

A Brief Description of Yukon Geography, Climate and Soil

Less than two percent of the 483,450 square kilometres of Yukon land is suitable for agricultural development because of the limitations of geography, climate and soils.

The Yukon is part of the Canadian cordilleran region that is characterized by mountainous terrain and the presence of glaciers and icefields in some areas. Agriculture is limited to the major river valleys including those of the Yukon, Takhini, Pelly, Stewart and Liard. For the most part, agricultural activity is located on river sediments. In the Takhini and Dezadeash valleys typical agricultural soils are formed on silts and clays deposited in glacial Lake Champagne.

The Yukon has a sub-arctic continental climate with temperatures reaching as high as 36.1 degrees in the summer and as low as minus 60 degrees in the winter. The average frost free period ranges from 93 days in the Watson Lake area to 21 days at Haines Junction. As well as varying greatly geographically, frost free period varies substantially from year to year at any location. Long hours of daylight during the summer promote rapid growth which compensates to some extent for the cooler summer temperatures experienced north of 60 degrees latitude.

Average annual precipitation ranges from less than 20 cm west of Whitehorse to more than 40 cm in Watson Lake. The Southwest Yukon, where most agricultural production occurs, lies within the rainshadow created by the St. Elias and Coastal mountains. South-west Yukon is subject to droughts between April and July—a particular problem for crop germination.

Yukon soils are generally deficient in nitrogen and phosphorus. Potassium and sulphur abundance is often dependent on local geology and is difficult to predict. Since 1984 more than half of the soils tested by the Yukon Agriculture Branch have been deficient in potassium. The most common micro-nutrient deficiencies are boron and magnesium. Soils throughout the Yukon are low in organic matter, and salinity has been identified as a problem in some localized areas. Permafrost is found throughout the Yukon varying from sporadic discontinuous in southern agriculture areas and increasing to extensive discontinuous at the northern extreme of agriculture activity in the Yukon.

Yukon Agricultural Areas

The total amount of land devoted to agriculture in the Yukon is approximately 8,800 hectares. Forty percent of this land is cropland and another 20 percent is under development for future agricultural use. Approximately half of the developed land is in crops, while the remainder is used for pasture or grazing.

Most of the land used for agricultural purposes in the Yukon is located near the major communities. Seventy percent of the Yukon's farms are located within 100 km of Whitehorse. The Takhini Valley agricultural area west of Whitehorse is the largest agricultural area in the Yukon. Significant agricultural areas are also found near Dawson City, Watson Lake and Mayo.

The location of Yukon agricultural areas is illustrated in Figure 1.

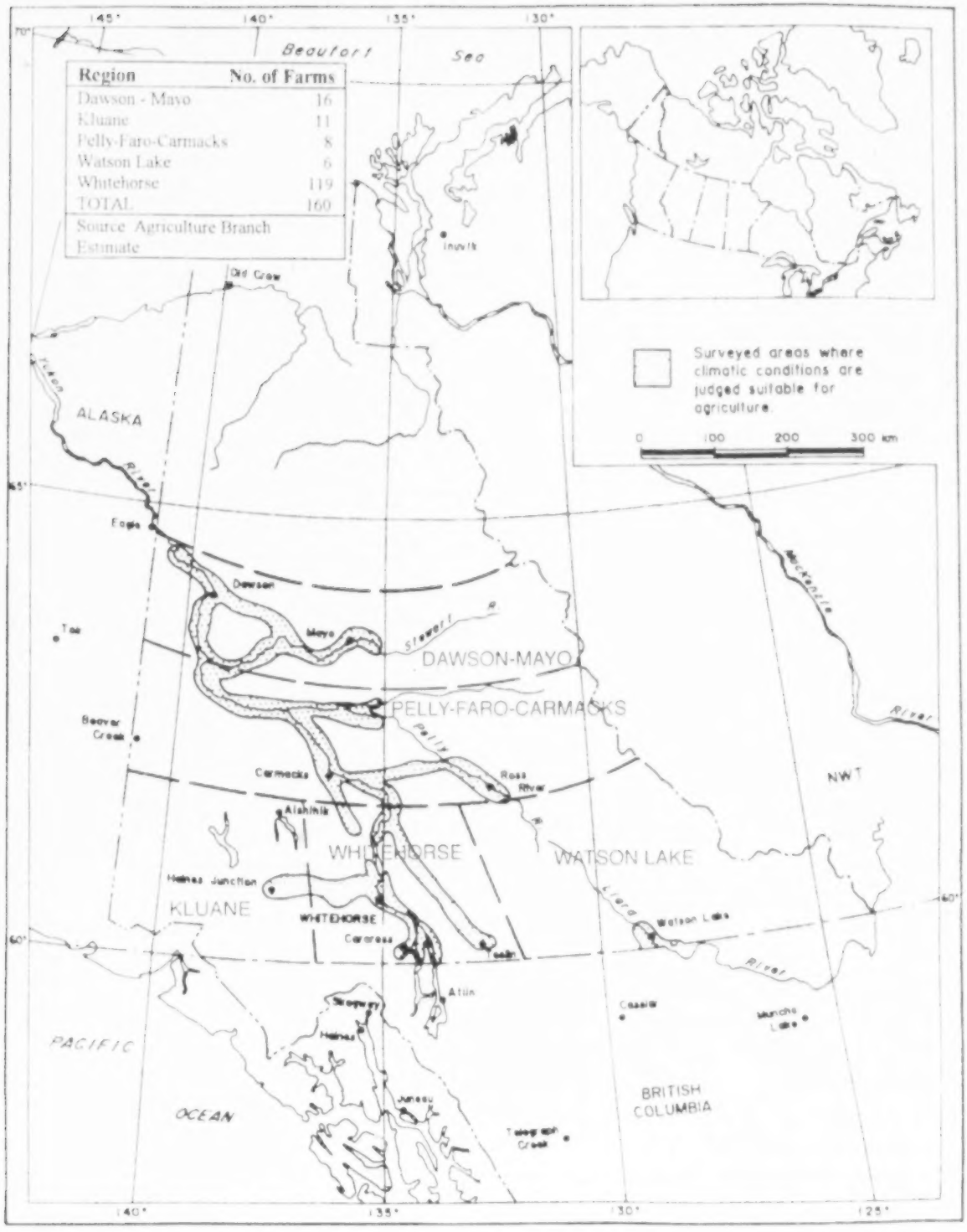


Figure 1. Yukon Agricultural Areas

Obtaining Crown Land For Agricultural Use

The Yukon is one of the few places left in Canada where Crown land can be obtained for agricultural purposes. To qualify for Crown land, an applicant must be a Canadian citizen or permanent resident of Canada, at least 19 years of age, who has lived in the Yukon for at least one year.

The application process for acquiring Crown land for agricultural purposes takes approximately 12 to 24 months, and there are no guarantees that an application will succeed. It begins with an application to the Yukon Agriculture Branch. The application must describe the intended uses of the land and the applicant must certify that an acceptable farm development plan will be submitted within 30 to 60 days. Applicants must also declare that they will retain their Yukon residency during the life of any agricultural land agreement that may result.

Preliminary reviews of the application are conducted by the Agriculture Branch of the Department of Renewable Resources and the Lands Branch of the Department of Community and Transportation Services, and other government review agencies. Conflicts with land use regulations, other land interests and applications, or known First Nations land claims will be identified. The Agriculture Branch provides an evaluation of site suitability and arability.

The Agriculture Branch also assists the applicant in conducting an agricultural management review of the soils, topography, water, access, location, and other concerns. At the same time, other branches of the Department of Renewable Resources examine potential conflicts with fisheries, habitat, wildlife, environmental and recreational values. Once these reviews have been completed, recommendations from the department are prepared for consideration by the department's Agricultural Land Application Review Committee (ALARC).

If the application receives a favourable review at ALARC it is forwarded to the Land Application Review Committee (LARC) and First Nation which holds traditional territory in the area under application. Following consultation with the First Nation, an agreement for sale may be prepared setting out the terms and conditions which must be met in order for the applicant to obtain title to the land. If the application is on federal Crown land (rather than Commissioner's Land) the application must be approved by the Federal-Territorial Land Advisory Committee (FTLAC). Finally, an Order-in-Council must be approved by the federal Cabinet transferring the land to the Commissioner for disposition.

The land is released to the applicant under an Agreement for Sale with an attached value. With this figure in mind the applicant is required to meet all the conditions of the Agreement for Sale including development of the property. Under the provisions of the Yukon Agriculture Policy, for every two dollars of approved development work completed by the applicant, one dollar may be forgiven. The total figure for the minimum work to be completed is calculated as being twice the difference between the market value of the land and the Yukon Government's estimated development cost. If the appli-

cant has met all obligations of the Agreement for Sale at the end of five years, the Agreement can be considered completed and title can be issued.

There were 30 agricultural land applications submitted in 1994. Seven of these applications were rejected by the Yukon government, while two were cancelled by the applicant. Four applications, totalling 222 ha, went to Agreement for Sale in 1994, and 12 agricultural titles totalling 399.88 ha were issued.

There were 33 agricultural land applications received in 1995, five of which were rejected by the government. Five Agreements for Sale, totalling 264 ha, were issued in 1995, while 15 titles totalling 741.73 ha were issued.

There are currently 61 agricultural land applications under active consideration, 44 on "hold," and 26 awaiting federal Orders-in-Council transferring them to the Yukon government—for a total of 131 applications in process. Most applications that are on "hold" require prior commitments to be completed, or are facing land claims, land planning or policy constraints.

Obtaining Grazing Agreements

Applications for grazing agreements are also submitted to the Agriculture Branch. The process for reviewing grazing applications is similar to that for agricultural land applications: potential conflicts with wildlife, existing land and resource uses, other land applications and aboriginal claims must be researched.

Grazing applications are reviewed and screened initially by Agriculture Branch personnel. Applications then go through reviews by two or three land review and advisory committees (ALARC, LARC, and FTLAC), depending on whether the application is located on federal or commissioners land. The Agriculture Branch also develops the Grazing Management Plan for the application area, estimates grazing capacities and stocking rates and performs the related field work and inspections. If sufficient natural graze is found in the application area, and if no major conflicts are identified through the review process, a grazing agreement with tenure can be issued.

In 1994 10 grazing applications were received by the Agriculture Branch. Two of these were rejected by government. In 1995, four applications were received. One application was withdrawn by the applicant.

At the end of 1995 there were 31 grazing applications under consideration. Eighteen were under active consideration and three were on "hold" pending resolution of outstanding issues. Ten applications had been referred to the federal government with a request to transfer the land to the Yukon Government by Order-In-Council (OIC). There were approximately 33 grazing agreements totalling about 9,000 ha being administered by the Yukon Government at the end of 1995.

PRODUCTION

I. Overview

The Statistics Canada Census of June 1991 and the Yukon Renewable Resources Farm Survey of 1991/92 indicated that the agriculture industry had undergone a period of rapid growth since the mid-1980's. The number of farms, total production, value of production and capital investment doubled or tripled between 1986 and 1991. Details of the 1991 Census and Yukon Farm Survey were presented in the 1992-93 State of the Industry Report.

The next Statistics Canada Agriculture Census will be conducted in May, 1996. This will be followed by another Yukon Farm Survey planned for 1998. Until these surveys have been completed we can only provide estimates of current farm activity. At the end of 1995 there were an estimated 160 farms and approximately 8800 hectares of land devoted to agriculture. Forty percent of this land was in production and an additional 20 percent was under development. Gross farm receipts totalled $1.7 million in 1991. The total value of production that year was estimated at $2.3 million. In 1995 total value of production grew to an estimated $3.0 million. The increasing value of production over the past several years has been due to the slow but steady growth in all sectors, but particularly in the poultry and livestock sectors.

There were 742 hectares of new agricultural land titled in 1995. Based on policy criteria and development requirements, this would have resulted in just over 400 hectares of new cultivated land coming into the agricultural land base that year. With the increase in arable/cultivated land base there has also been a significant increase in the amount of agricultural equipment being located in the Yukon. For example, there are now eight to ten harvest combines and threshing machines in the Yukon, whereas only five years ago there were only two or three. Most of the equipment was purchased from northern British Columbia and Alberta. There are now two or three private sector businesses providing farm equipment servicing and repair. It is now also fairly common to be able to contract the services of a custom machine operator or contractor to develop, work, prepare and seed land. These services were difficult to obtain only a few years ago.

II. Growing Season Conditions – 1994 and 1995

The growing seasons in both years had above average temperatures producing good growing conditions in most regions.

1994 Weather Summary

Early spring was warm and dry in most areas of the South Yukon, though wetter in central Yukon and the southeast. June was mainly cold and wet in central sections and dry elsewhere. The summer months will long be remembered for their warmth. July started out cool but warmed up considerably. The result was that most of the Yukon was one to four degrees above normal that month. A number of stations reported maximum temperatures in the low 30's (Celsius). It was generally dry in the south with the exception of the Watson Lake area. While July was nice, August was spectacular. The first two

weeks of that month experienced very warm temperatures that were one to five degrees above normal. Some communities had their highest mean August temperatures ever recorded. The month was generally dry with only a few stations reporting more than their normal amount of precipitation. September was cool and damp with most stations reporting below normal temperatures, and precipitation amounts well above normal, creating problems for fall harvests. In all, the growing season was very good with generally dry and above average temperatures in all locations. Total growing degree days in Whitehorse were about 25 percent above normal for the year.

1995 Weather Summary

Spring and early summer conditions were very warm and dry. May temperatures were above normal in all areas of the Yukon. It was the warmest May on record in the Whitehorse area, where temperatures reached nearly 30 degrees on May 12. The south was very dry, while the Dawson region was rather wet. Warm temperatures continued into June, resulting in numerous large forest fires establishing in the central Yukon, particularly in the Carmacks and Pelly regions. July and August brought cooler, wetter conditions to all regions. Below normal temperatures were common while precipitation was near normal, which helped crops and reduced the forest fire hazard. The last two weeks of August were cool, but killing frosts were generally not experienced until late September, or even Thanksgiving in some locations. An exceptionally warm and slightly drier than normal fall extended the growing season in all locations. The total growing degree days in Whitehorse were 25 percent above normal for the year.

III. Production Sectors

Livestock

Livestock (all domesticated farm animals, but excluding game farmed animals) continues to be the largest sector of the Yukon's agriculture industry in terms of sales, land use, and number of operators reporting production. Significant growth over the past two years were in laying hens, market hogs, and llamas. Meat sales at the farm gate have also increased, particularly for beef, chickens and turkeys.

Game Farming

Receipts from game farming were very encouraging in 1994 and 1995. Although no meat sales were recorded, there were excellent returns for breeding stock and antler velvet. Future growth in this sector is likely to be steady. There is increasing interest in Wood Bison production, and some First Nations have expressed interest in this sector. Agri-tourism has been an important component of some game farm operations as well.

Field Crops

The field crop sector is based primarily on the production of forage hay and green-feed oats. More than 60 percent of the cropland is devoted to hay and 25 percent is in green-feed oats. Oats and barley grain production has increased slightly over the past two years. Total value of all field crops (forage and cereals) was an estimated $350,000 in 1995.

Greenhousing

Approximately 70 percent of Yukon sales in horticulture are from greenhousing with the majority of greenhouse sales coming from bedding plants. In 1994, two commercial greenhouses opened in Watson Lake supplying the community with a local source of bedding plants.

Greenhousing also accounts for sales of greenhouse vegetables, herbs, cut flowers and forestry tree seedlings. The 1991 farm survey recorded 39 greenhouses making sales with 40,000 square feet under glass or plastic. Value of production that year was reported at $190,549.

Produce is marketed through local retail outlets, the farmers markets, and at the farm gate. Common off farm storage and marketing facilities are considered to be limiting factors to the development of this sector.

Vegetables and Berries

Vegetable production is carried out on small acreages throughout the south and central Yukon. The most common crops are potatoes, carrots, brassicas and lettuce. Most produce is marketed fresh through retail outlets, farmers' markets, and direct sales. Some producers also sell directly to exploration and mining companies and camps. Vegetable production has slowly increased but pricing, competition and marketing methods are still serious issues that require the attention of growers.

Numerous opportunities also exist for native berry picking and marketing. It is becoming increasingly common to find Yukon moss berry and cloud berry jams and jellies in local retail outlets. No sales were reported in domestic berry production, although acreage of berries (raspberries and Saskatoons) has slowly increased.

Wild Mushrooms

Wild mushroom harvesting as a commercial activity has increased significantly in the Yukon in the past few years. This sector is being monitored closely because of potential land use conflicts. A study was recently commissioned by the Yukon Agriculture Branch to assess the economic potential of this sector, and a report should be available in 1996. It is estimated that sales of morel mushrooms harvested in the Yukon have exceeded $100,000 each year for the past several years.

Bee Keeping

There is presently very limited honey production in the Yukon. However, the quality of the honey produced is excellent, and small amounts can usually be obtained in the specialty shops of Whitehorse and the larger communities of the Yukon. There are no current estimates of the value of honey production in the Yukon.

INFRASTRUCTURE DEVELOPMENT

Abattoir Project

The construction of an abattoir in the Whitehorse area has been a goal of the Yukon Agricultural Association and the Agriculture Branch since 1988, when the first feasibility study was conducted.

From 1988 to 1994, the Branch and the Association cooperated in the development of plans, equipment lists, additional studies and searching for suitable site locations. Several potential sites were identified, although land was never acquired for the project.

A steering committee of government and non-government representatives was established to assist with the identification of funding sources and planning activities.

On March 30, 1994 the Yukon Agricultural Association received a commitment of $500,000 from the Renewable Resources Cooperation Agreement of the Economic Development Agreement towards construction capital costs. The funding was for a limited period of time and conditional upon the Association raising the additional funding required to complete the project. Unfortunately, the Association was unable to raise the required capital within the specified time frame.

While no abattoir was constructed during 1994/95, the Yukon Agriculture Branch and the Yukon Agricultural Association continued to work toward finding alternative ways of meeting this need.

Egg Grading Station

The Yukon's first private egg grading station has operated at Partridge Creek Farm north of Stewart Crossing for several years. Egg grading stations assure consumers that the eggs they buy meet federal standards and are properly graded. Federal inspections of the Partridge Creek Station are ongoing. At the close of 1995 Partridge Creek Farms was producing and inspecting an estimated 30,000 eggs annually.

Veterinarian Services

Yukon is now served by two veterinarian practices staffed by four veterinarians. Yukon Veterinarian Services has a large animal practice and is providing on-farm service throughout the Yukon. Copper Road Veterinarian Clinic also supplies a large animal service in the Whitehorse area. The Agriculture and Agri-Food Canada veterinarian from Dawson Creek, B.C. makes visits to the Yukon to test game farmed and domestic animals for brucellosis and tuberculosis.

MARKETING AND PUBLIC AWARENESS

Whitehorse Farmers' Market

The Whitehorse Farmers' Market was established by a Committee of the Yukon Agricultural Association in 1984. It has since become a showcase for Whitehorse area producers who sell a wide variety of locally produced vegetables, baked goods, honey, and crafts at the summer markets. The market was moved from the waterfront to a Second Avenue location (across from the Second Avenue Chevron station) in 1995 to prevent damage from vandalism, which was a frequent problem at the waterfront site.

Efforts are continuing by the Yukon Agriculture Branch and the Association to secure a permanent site for the market.

Klondyke Harvest Fair

A major initiative of the Whitehorse Chapter of the Yukon Agricultural Association in 1995 was the sponsorship of the First Klondyke Harvest Fair at Rotary Park in Whitehorse. The August event included a variety of activities for both the farm community and the public: pony rides, a dog show, dressage demonstrations, a juried bench show, children's games, a farmers' market, face painting, a midway, music, dancing demonstrations and displays. A local "kiss the pig" competition involving local celebrities was won by Whitehorse Mayor Kathy Watson. The organizing committee intends to continue this event on an annual basis.

Watson Lake Fall Fair and Business Exposition

The Watson Lake Chamber of Commerce sponsored Fall Fairs in late August in 1994 and 1995 at the Johnny Friend Arena. Local exhibits included vegetables, flowers, preserves, and handicrafts made by area residents. Agriculture Branch staff attended with information and a display on northern agriculture and to assist with judging of local produce.

Carmacks Fall Fair

A Fall Fair was held in Carmacks in both 1994 and 1995. The 1995 Fair also incorporated a Farmers' Market. Competitions were held to determine who grew the best vegetables and flowers during the year. There was also judging of arts and crafts, pies and preserves, and smoked salmon.

Mount Lorne Country Fair

The community of Mt. Lorne held their second and third annual country fairs in 1994 and 1995. The event attracted a large number of area residents, who participated in games, a flea market, and a bench show of vegetable and flower entries. The events wound up with a community potluck feast and live music.

Mayo Markets and Bar-b-ques

The Silver Trail Chapter of the YAA carried on their spring farmers' markets in 1994 and 1995. Several local producers got together to sell bedding plants one day each May at the community hall in Mayo. The event was extremely popular, attracting up to 100 people at each market.

During the past two years, the Chapter hosted an annual fall bar-b-que at the Mease farm outside of Mayo. A whole pig was put on to bar-b-que, and people from all over the region showed up to enjoy the event.

Media Coverage

The Yukon media coverage of agricultural events and activities reflected the prominent issues in 1994 and 1995. The Whitehorse Star published 24 articles on agricultural issues during these two years: 13 in 1994 and 11 in 1995. Topics included the abattoir project, livestock control, game farming and the Klondyke Harvest Fair. The Yukon News published a similar number of articles.

The industry also received exposure through paid advertising that highlighted events such as the Whitehorse Farmers Market, availability of Green Plan research funding, and agricultural workshops.

School Presentations

The Yukon Agriculture Association presented information on "Sustainable Agriculture in the Yukon" to grade four classes throughout the Yukon in both 1994 and 1995. Classroom visits were followed by field trips to local farms where students were able to talk to producers and observe the industry first hand. Although the program was popular with both teachers and students, federal funding cuts have left the future of this program in doubt past 1995.

INDUSTRY ASSOCIATIONS

Yukon Agricultural Association

The Yukon Agricultural Association (YAA) promotes the development of agriculture and works closely with the Yukon government to achieve its goals. The Association continues to pursue an abattoir for the Yukon as well as promoting the Farmers Market and Fall Fairs. Issues such as the availability of agricultural land and the agriculture policy evaluation are also being monitored closely by the YAA through its membership on the Agricultural Planning and Advisory Committee.

In 1995 the Association initiated a strategic planning process utilizing funding assistance from the Canada-Yukon Economic Development Agreement and the Federal-Yukon Green Plan. A consultant was hired to assist the Association with its planning process, which will continue into 1996.

Game Growers Association of Yukon

The Game Growers Association of Yukon was formed in 1989 to represent and promote the Yukon's game farming industry. The Association had five active members in 1994 and 1995.

In 1995 the Yukon's game farm herds consisted of approximately 70 head of elk, 14 musk oxen, and 45 woodland bison. Federal government testing confirmed that all the animals in captivity were disease free. There are currently both policy and regulations in place to govern the industry.

The Yukon government owned a small herd of elk under private management for wild transplant purposes until 1993. The program has since been terminated and the animals released into the wild. However, as a measure to control free ranging wood bison posing a road hazard, the Yukon government issued a tender for the control and management of approximately 35 animals. The contract was let to LaPriarie Bison Ranch in 1994 and continues in place today.

The 4-H Program

The 4-H organization is a strong youth program throughout both Canada and the United States. "4-H" stands for pledging heart, health, head and hands to better service and responsibility to the community.

The Yukon 4-H program has grown substantially over the past two years and there are currently clubs located in Whitehorse, Watson Lake and Dawson and a 4-H dog club in Whitehorse.

The clubs hold regular meetings, social events, and competitions, as well as educational sessions for improving skills in the management, training and handling of horses and dogs.

Future activities will include more Yukon club exchanges as well as exchanges with clubs outside of the Yukon. The success of the 4-H program has been accomplished through its excellent adult leadership as well as volunteer assistance and enthusiastic youth participation.

FEDERAL GOVERNMENT SERVICES AND PROGRAMS

I. Agriculture and Agri-Food Canada

Research Branch

The Yukon Land Resources Unit (YLRU) has one full-time employee and conducts major projects using contractors. The unit acts as the federal departmental liaison in the Yukon, and assists the Yukon Agriculture Branch in extension services and land administration activities. The major function of the unit is to conduct soil research related to agriculture and renewable resource management in the Yukon.

In 1994, the unit published the proceedings of the First Circumpolar Agriculture Conference held in Whitehorse in 1992. It included articles on crops, soils, and animal husbandry written by experts from around the circumpolar world. Copies of the proceedings are available from the Yukon Agriculture Branch office in Whitehorse.

The unit continued to monitor a network of soil temperature recorders located across the Yukon. Soil temperatures have been collected for three years in support of research on cultivated permafrost soils in the Klondike Valley. Soil temperatures were also being collected in the Takhini Valley as part of a joint study into agricultural microclimates with the Department of Geography of Carleton University. The research is aimed at evaluating the effects of elevation on growing season climate. Results will be available after the 1996 growing season.

The Head of the YLRU sat on the Technical Review Committee for the Canada-Yukon Agreement on the Agri-Food Component of the Green Plan. The years 1994 and 1995 saw a total of 20 projects funded, seven of them on soil topics. Of research interest were two studies supervised by the unit on the effect of tillage, fertilization, and the use of the herbicide Kerb on soil organisms. Soil animals, such as mites and springtails, are thought to be good indicators of the health of a soil. An examination the soil faunal population and diversity may reveal important information about the condition of the soil itself. These were the first ever soil health studies utilizing soil fauna populations in the Yukon. Soil studies in the Takhini Valley showed relatively healthy populations of selected families of soil fauna. These were not overly impacted by conventional field management practices, although these results are still preliminary.

Other Green Plan soil related projects included an extension bulletin on soil salinity, tips on sustainable farming practices, growth of vegetables on compost enriched soil, and the use of irrigation for frost protection. All the project reports are available through the Yukon Agriculture Branch office.

The YLRU has been active as a member of the steering committee of the Forest Ecosystem Classification project in southeastern Yukon. Field work was conducted during the summers of 1994 and 1995 to collect information about the soils and native vegetation in the region. The information is now being summarized for use as a framework for the ecosystem based management of the Yukon's forest resources. The classification

will be published by the Yukon Department of Renewable Resources through the Fish and Wildlife Branch.

Food Production and Inspection Branch

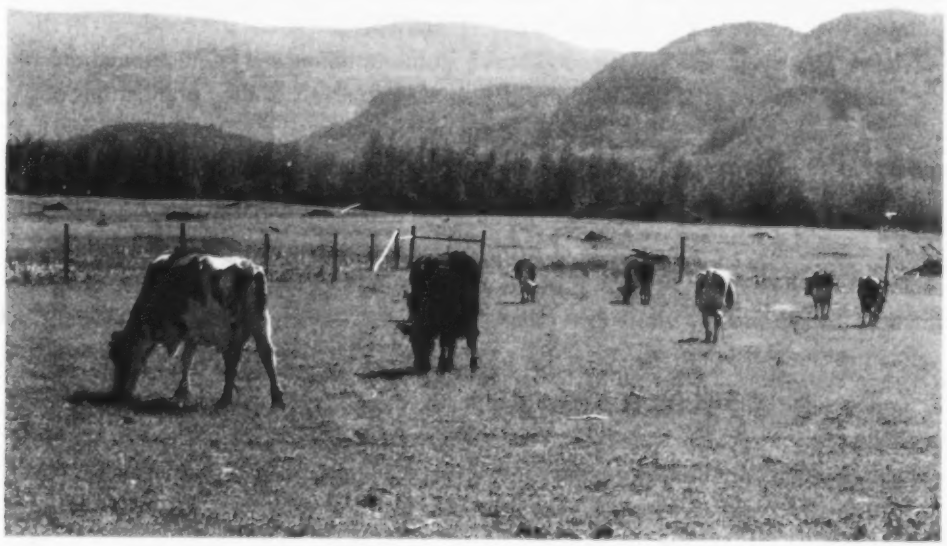
Through funds provided by the Pesticide Innovation Program the federal government has been able to contract two projects relating to the use of pesticides in the Yukon. In 1994, Amisk Technical Services prepared a summary of pesticide use in the Yukon and concluded that municipal mosquito control programs using bacterial control of larvae (Vectobac 200G) represented a large proportion of total pesticide used. In agriculture and right-of-way vegetation control, Round-up and Killex were the major pesticides used.

In 1995, a field study to examine the ecological impacts of Kerb, a pesticide used to control foxtail barley in perennial bromegrass stands, was conducted by BioIntegrations. The study revealed no major impacts on the populations of two families of soil organisms (mites and springtails) from the use of the product. Soil organisms (i.e. soil fauna) are being used increasingly around the world as indicators of the health of agricultural soils.

The Alberta Regional Office of the Food Production and Inspection Branch, Plant Health Program, liaises with the Yukon Land Resource Unit to provide services mainly related to pesticide regulatory issues.

Policy Branch, Feed Freight Assistance

Feed Freight Assistance (FFA) was available until December 31, 1995 to producers who transported grain within Canada. Assistance was available for grain only; mixed seed supplements and forages did not qualify. In the Yukon, FFA amounted to $54 per tonne of feed.



Producers registered in the program were entitled to a one time pay out which may be based on historical use. The producers registered in the program will be involved in deciding how to allocate the $132,750 scheduled for pay out to the Yukon.

Prairie Farm Rehabilitation Administration

The Prairie Farm Rehabilitation Administration (PFRA) Shelterbelt Centre provides nursery trees free of charge to producers who wish to develop shelterbelts on their farms. Producers need only cover the freight charges from Saskatchewan. In 1994, 22 Yukon farms received 9,846 trees, while in 1995, 15 farms received 7,445 trees. The program is coordinated in the Yukon by the Yukon Agriculture Branch, which has application forms available upon request. The most successful transplant species to date have been willow, poplar, caragana and lilac. Hardy evergreen species include Scot's pine, white spruce and Siberian larch.

Marketing Industry Services Branch

The Marketing and Industry Services Branch (MISB) mandate is to work with Canada's agri-food sector to enhance its global competitiveness, and in so doing, increase the sector's share of both domestic and international markets. Specific priorities of the branch are to address market access, market information, intelligence and analysis, and strategic alliances.

Services to the Yukon's agri-food industry are provided by the Alberta Regional Office of MISB. During 1995, the Branch continued its support for the sustainable development of the industry through the Canada – Yukon Agreement on the Agri-Food Component of the Green Plan. (See section on Joint Federal – Yukon Programs for more details on this program). MISB staff also worked with the Yukon's Agriculture Branch on the phase out of the Feed Freight Assistance program and the Adaptation Programming consultations. The Branch continues to be an ex-officio member of the Yukon Agricultural Planning and Advisory Committee.

In June of 1995 the Agri-Food Trade Service was established. The Agri-Food Trade Service provides Canadian agri-food exporters simplified access to market information, export counselling, and export programs relevant to industry market decision-making and success. These services are available to Yukon producers should they require exporting support and advice in the future.

II. Farm Credit Corporation

The Farm Credit Corporation's (FCC) mandate is to assist rural farms by providing specialized and personalized financial services to farming operations and small to medium sized farming related businesses. The FCC provides loans with fixed interest rate terms of three, five, 10, or 20 years.

The Corporation's loan portfolio in the Yukon currently amounts to between $700,000 and $1,000,000, with the average loan in the $50,000 range. This translates into an average of 14 to 20 accounts annually.

YUKON GOVERNMENT SERVICES AND PROGRAMS

I. Department of Renewable Resources

Yukon Agriculture Branch

The Yukon Agriculture Branch was established on April 1, 1986 with a staff of two full-time and one part-time employees. With the growth of the agricultural sector over the past decade, this Branch has grown to six permanent employees: a Director, Secretary, Agricultural Development Officer, Agrologist, Land Disposal Coordinator, and a Soils Technician. There is also one auxiliary Grazing Management Coordinator.

The Director is responsible for the overall management and administration of the Branch. Duties include developing policy and regulations, managing finances and budgets, administering extension programs, supervising staff, and meeting with the public, both in the office and on their farms.

The Agriculture Development Officer's responsibilities include inspecting lands under Agreements for Sale, on farm extension services and coordination of the Canada Plans Service (CPS) and Prairie Farm Rehabilitation Administration (PFRA) activities in the Yukon. This person also attends committee meetings addressing land related issues.

The Agrologist is responsible for managing the demonstration plots, soils related extension work and publication of the Branch quarterly newsletter, "InFARMation." The Agrologist also sits on a variety of committees and chaired the Renewable Resources Cooperation Agreement's Technical Advisory Committee.

The Land Disposal Coordinator receives, processes, and tracks agricultural land applications.

The Soils Technician provides technical support to the Agriculture Branch and is responsible for identifying and evaluating agricultural capability. This staff member is also involved in grazing land assessments, the research and development plots, data base compilation and analysis, as well as numerous extension activities.

The Grazing Management Coordinator is responsible for identifying and evaluating plant species and natural vegetation communities on grazing agreement lands. This staff member is responsible for range improvement programs, grazing management agreements and related extension work. The Grazing Management Coordinator is also called upon to assist with insect and plant identification.

The Agriculture Branch had an Operation and Maintenance (O&M) budget allocation of $586,000 in 1993-94 (a 20 percent increase over 1992-93) and $627,000 in 1994-95 (a 7 percent increase over 1993-94). The increase in 1994-95 was, in large measure, a result of taking over responsibility for agricultural land administration from the Department of Community and Transportation Services.

Approximately half of the Branch's staff time was devoted to various forms of extension services and administration. Another ten percent was dedicated to inspections and regulatory functions. An increasing proportion of staff time is being allocated to land

application issues as a result of the transfer of the agricultural land program from Community and Transportation Services in 1994. Staff also spent time on policy development, infrastructure planning and development, marketing projects, and attending Yukon Agricultural Association and Agriculture Planning and Advisory Committee meetings.

Demonstration Plots

The Agriculture Branch has maintained demonstration plots on the Takhini Forestry Farm since 1988. The initial thrust was to test a wide variety of crops for suitability here in the Yukon. This phase complemented the Yukon Crop Development Program that ran from 1987 to 1990.

The second phase saw less emphasis on testing varieties and more on soil conservation techniques. Different varieties of legumes were tested for productivity and nitrogen fixing capability. A variety of green manures, including field peas, lentils and oats were tested. The results of these trials were documented in the Agriculture Branch annual research reports of 1990, 1991, and 1993.

The direction initiated in 1994 and developed in 1995 was built on the soil conservation emphasis of the previous four years. Conserving and building of soils will be the major focus of a four field rotation project. Economics will be emphasized by keeping close records of inputs and potential returns of a cash crop in the rotation. An open invitation is extended to anyone who wishes to visit the site.

Research results are published in the InFARMation newsletter and in the annual summary entitled Yukon Research and Demonstration Report.

Extension Services

The Agriculture Branch provides on-farm and in-office consultations to producers throughout the Yukon. These services provide a link between new research and on-farm application. In 1994 and 1995 specialists were brought in from Alberta, British Columbia, and Alaska to share their expertise in egg and poultry production, organic gardening, forages and marketing with Yukon producers.

The Branch also maintains a collection of agricultural resource materials. The collection includes pamphlets, videos, and books on a wide range of agricultural subjects as well as a herbarium and a display of Whitehorse garden insects.

InFARMation is a quarterly bulletin, produced since 1987, to keep producers up-to-date on industry happenings. It contains crop news and articles on sustainable agriculture, extension services, livestock, industry trends, and research and demonstration updates. It has a circulation of about 300 copies.

The Canada Plans Service, available at the Agriculture Branch, has over 100 plans available for the construction of agricultural facilities. Plans are available on most farm buildings, root cellars, livestock shelters, animal chutes, and grain storage structures. Up to 30 of these plans are used by Yukon producers each year.

The feed, soil and forage testing service is one of the Branch's most popular programs. More than five years of test results were summarized and analyzed in 1990. Results were published in the Yukon Agriculture Research and Demonstration Report.

The Agriculture Branch held a symposium in Whitehorse in March 1994, a symposium in Dawson in February 1995, and another in Whitehorse in November 1995. These events provided an opportunity to exchange ideas and learn about new trends in agriculture. The 1994 symposium covered forage production, organic crop production, and a panel discussion on marketing Yukon farm products.

In 1995 the Branch held small scale butchering workshops in both Whitehorse and Dawson City. Gardening and greenhouse workshops were also held in Dawson, Mayo and Carmacks.

The annual Whitehorse symposium was held in November, 1995. The majority of the conference involved poultry and egg production. Other topics included raising Black Angus cattle in the Yukon, garden insects, Green Plan project summaries, and updates on the Yukon Agriculture Association Strategic Plan and the abattoir project. The evening banquet was attended by approximately 80 people who enjoyed a meal of Yukon grown and raised foods, a slide show of the Klondyke Harvest Fair, entertainment by Roy Ness, and an auction lead by Rod Tait from Haines Junction.

The following table summarizes the Agriculture Branch public contacts in 1994 and 1995.

Table 1. Summary of Branch Contacts 1994 – 1995

Activity	Number of Contacts 1994	1995
Telephone calls	2232	2475
Office visits*	852	907
Farm visits	286	264

* There was a substantial increase in 1994 and 1995 due to the transfer of the Agricultural Land Program to the Agriculture Branch in 1994.

II. Policy Initiatives

Agriculture Policy Evaluation

The Yukon's Agriculture Policy, released in the autumn of 1991, committed the Yukon government to conducting an evaluation of the policy after the third year of implementation. In 1994, the Department of Renewable Resources determined that some key components had yet to be implemented, namely rebates for land taxes and orderly development. A two step policy evaluation process was approved in the autumn of 1995. The first step involved the evaluation of those components of the policy implemented to date. The second step will occur after the outstanding components have been implemented, and will address the evaluation of those components.

Alberta – Yukon Elk Importation Protocol

In 1994, the Government of Alberta eased some of the requirements placed on Yukon elk growers exporting animals from the Yukon into Alberta. This is due to registered Yukon elk being free from meningitis, brain worm and "red deer" genes.

In 1994 and 1995, 84 animals were exported to Alberta under this agreement. All elk calves shipped to Alberta from the Yukon must also have a permit showing they originate from a herd with a current negative rating for brucellosis and tuberculosis. To date, Yukon elk growers have achieved disease free status.

The Yukon Agriculture Branch takes a lead role in ensuring that all records associated with this protocol are in order.

Game Farming Policy and Regulations

Following up on the approval of a new Game Farming Policy in 1993, the Yukon Government proclaimed Order-In-Council 1995/15, the Game Farm Regulations, on January 16, 1995. The new policy and regulations address concerns related to the transfer of diseases, genetic contamination, sale of animals and products, and operational requirements of game farms in the Yukon. The regulations classify elk, muskoxen and wood bison as game animals eligible to be farmed, although other species may be farmed at the discretion of the Minister.

Animal Health Legislation

The Agriculture Branch produced a discussion paper on the animal disease control issue in 1994 that was reviewed by industry and other stakeholders. Stakeholders responded positively to the option of developing new legislation to fill legal gaps that could allow the entry and spread of diseases and parasites to Yukon domestic and other animals. A Yukon Animal Health Bill was drafted based upon Yukon needs and similar legislation from other Canadian jurisdictions. The draft Bill will be released for industry, other stakeholders, and general comment from May 2 to July 3, 1996.

Environment Act

Various components of the Environment Act apply to agricultural activities in the Yukon. Pesticide Regulations were proclaimed in 1994 and govern the usage of chemicals for weed and insect control throughout the Yukon. Special Waste Regulations came into effect in 1995 and help to prevent the contamination of food, water and soil by controlling the disposal of waste oil, solvents, antifreeze, batteries, and other types of products requiring special disposal procedures.

III. Department of Community and Transportation Services

Interim Reciprocal Agreement on Farm Vehicles

In April, 1995 the Yukon Department of Community and Transportation Services reached an Interim Reciprocal Agreement on Farm Vehicles with the B.C. Ministry of Transportation and Highways. The Agreement allows any Yukon farmer displaying a FARM vehicle registered plate on his vehicle the opportunity to travel throughout B.C. by:

1. purchasing a single trip or quarterly non-resident commercial permit;
2. filing a certificate of financial responsibility with ICBC prior to travelling to B.C.; and,
3. purchasing a B.C. fuel tax permit.

The Interim Agreement was effective to January 2, 1996, and Yukon officials are hoping to negotiate an extension of the agreement for several more years.

JOINT FEDERAL-YUKON PROGRAMS

Economic Development Agreement

The Canada-Yukon Economic Development Agreement (EDA) provided financial assistance for economic development projects in a variety of sectors of the Yukon economy. The Renewable Resources Cooperation Agreement funded projects in the following areas: Element 1 – Research and Planning; Element 2 – Pilot and Demonstration Initiatives; and Element 3 – Business Development. In 1994 and 1995 nine projects were approved and five projects were completed utilizing EDA funding assistance. The five completed projects included:

1. *Access Road to Marl Pit (Stewart Valley Chapter, Yukon Agricultural Association) – $27,677*
   A 300 metre stretch of road near the Mayo airport was upgraded to permit year round public access to a source of marl. Marl is a natural source of lime that can be used to treat acid soils by increasing the PH level of the soil. The road was often impassable due to the fact that it passed through a wet area, causing vehicles to bog down.

2. *Elk Fencing (David and Shirley Ford) – $9,900*
   Funding was provided to permit the Ford farm operation to expand their fencing. The Fords maintain a small elk herd on their farm near Whitehorse. The farm was partially fenced, but additional fencing was required to allow pasturing over a larger area of the farm and thus reduce feed costs.

3. *Strategic Plan Development (Yukon Agricultural Association) – $8,000*
   Following up on a Strategy Workshop held in May 1992, the Yukon Agricultural Association obtained funding to hire a consultant to assist it in developing a strategic plan. The plan was designed to enable the association to strengthen its structure, clarify its mandate, and provide clearer direction for its leadership.

4. *Irrigation Pipe (Yukon Agriculture Branch) – $4,100*
   Purchase of new irrigation pipe, coupled with irrigation on site, enabled the Agriculture Branch to obtain important data on the results of irrigation on yields, legume varieties, management practices, and soil improvement. The Agriculture Branch has maintained demonstration garden plots at the Takhini Forestry Farm since the mid-1980's. The lack of moisture in the area was identified as an inhibiting factor in crop establishment and consistent yields.

5. *Portable Irrigation Equipment (Yukon Agriculture Branch) – $2,208*
   The Branch obtained funding to purchase a portable irrigation system to demonstrate the efficacy of irrigation in remote farm locations. Lack of moisture is a significant limiting factor to agricultural production in many areas of the Yukon. This, combined with the inability to connect to the power grid in many rural areas, results in significant under production.

The amount of funding that went to the agricultural sector in 1994 and 1995 represented a significant decrease from previous years. However, part of the decline reflected the

lapse of funding to construct an abattoir, which would have utilized EDA funding, and could have encouraged many producers to expand into livestock production. Other constraints included a change in funding criteria which made some private sector applicants ineligible for grants under the EDA. This resulted in some applicants turning down offers of loan funding for their projects. Federal expenditure cutbacks announced in February 1995 also resulted in cuts to the Renewable Resources Cooperation Agreement. The Renewable Resources Cooperation Agreement quickly expended the remainder of its reduced budget early in 1995.

The Agreement is scheduled to expire on April 1, 1996. There are no plans for a new Agreement after that date.

Green Plan

The agri-food component of the Green Plan promotes sustainable development in the Yukon agriculture industry. Project proposals related to water quality, soil and land conservation, wildlife habitat, pollution and water management, public awareness, and on-farm demonstrations are eligible for funding on a shared cost basis between the federal and Yukon governments.

In 1994, seven projects totalling $45,488 were approved:

1. *The Identification and Populations of Micro/Macro Fauna in the Soils of the Whitehorse Region – $8710*
   Marty Tengelis conducted an assessment of soils and soil invertebrates in the Whitehorse area, including the compilation of data on pH levels, soil conductivity, temperature and texture. An inventory of organisms found in the soil horizons was completed. He also identified and recorded vegetation cover at the sample sites.

2. *Growth of Vegetables on Compost Versus Fertilizer Enriched Soil – $5140*
   The Recycle Organics Together Society (ROTS) of Whitehorse conducted a study comparing vegetable production in compost-enhanced soils, fertilizer-enhanced soils, and top soil only. Their secondary objective was to increase public awareness of the value of composting.

3. *Feasibility Study on Re-Using Locally Produced and Shredded Paper as Livestock Bedding – $13,045*
   The Yukon Conservation Society conducted this study involving the collection of shredded paper products from Whitehorse area offices and re-using it as bedding material for livestock. Yukon farmers were involved in assessing the shredded paper bedding.

4. *Emerald Hall Garden, Jack Hulland School – $5500*
   A greenhouse and gardens were constructed to provide students with an awareness and understanding of sustainable agriculture.

5. *Soil Moisture Crop Protection Research – $3300*
   K. Bisset and Associates of Whitehorse studied the use of sprinkler irrigation systems to protect 5 frost sensitive crops. They also examined the minimum water

application rate required to extend the growing season for these crops and made recommendations on suitable systems for the Yukon.

6. *Reprinting Circumpolar proceedings – $4838*
   The Yukon Land Resources Unit of Agriculture Canada received funding to reprint the proceedings of the First Circumpolar Agriculture Conference, which was held in Whitehorse in September 1992.

7. *Sustainable Agriculture Information Series – $4955*
   Diane Simpson developed an information pamphlet and card to promote public awareness of sustainable agricultural production in the Yukon.

Projects conducted in 1995 totalled $52,180, and included:

1. *Yukon Agricultural Association Strategic Plan Development – $5710*
   Funding from the Green Plan was combined with Economic Development Agreement funding to hire a consultant to prepare a strategic plan for the YAA.

2. *Foxtail Weed Control in Yukon Forage Stands – $1660*
   This research into the effectiveness of manual weed control of foxtail was conducted by Helen Jeong in conjunction with an Agriculture Branch demonstration of the use of a herbicide on an adjacent plot.

3. *Effects of Soil Salinity on Yukon Crops: Extension Bulletins – $3400*
   Agriculture Canada's research on soil salinity in the Yukon were compiled and incorporated into an extension bulletin by Helen Jeong.

4. *Sustainable Agriculture in the Yukon – $8000*
   The Yukon Agricultural Association received funding to continue classroom presentations on sustainable agriculture to Grade 4 classes throughout the Yukon.

5. *A Symposium on Northern Agriculture – $2500*
   The Agriculture Branch obtained funding to bring several guest speakers to the 8th Annual Northern Agriculture Symposium, held on November 3, 1995 in Whitehorse.

6. *Response From Conventional and Conservation Farming Techniques on Soil Arthropod Populations and Diversity in the Yukon – $8000.00 (Part 1); $5320 (Part 2).*
   M. Tengelis studied the impact of various farming practices on soil animal populations in the Whitehorse area as a measure of the health of Yukon agricultural soils.

7. *Agriculture Land Use Plan – $15,800*
   The Department of Renewable Resources received funding to conduct research into caribou migration and winter habitat in the Carcross-Southern Lakes region as a preliminary phase of a larger project to identify land for agricultural subdivisions.

8. *Pesticide Course – $1800*
   The Environmental Protection Branch of Renewable Resources received funding to conduct a pesticides awareness course for pesticide vendors in the Yukon.

Agriculture Planning and Advisory Committee

The Agriculture Planning and Advisory Committee (APAC) was created in 1984 to provide a mechanism for ongoing consultation between government and the agriculture industry in the Yukon. The Committee has a mandate to make recommendations to the Minister of Renewable Resources on agricultural issues. It is chaired by the president of the YAA or their designate, and co-chaired by a senior Yukon government official.

APAC continued to be active in 1994 and 1995. Issues discussed included such topics as the Agriculture Policy Review, YAA's Strategic Planning process, the APAC Terms of Reference, farmer's markets, land issues, abattoir planning, Game Farming Regulations, and Green Plan projects. The Committee met in Whitehorse in July and October 1994, and October 1995.

Circumpolar Agriculture Conference

The Second Circumpolar Agriculture Conference was held in Tromso, Norway from September 4 – 7, 1995. The theme of the conference was "Agriculture as a Fundamental for Rural Development in Circumpolar Areas." Papers and presentations delivered at the conference covered "policy development and socio-economic aspects of northern agriculture," "crop production in the North," "animal production in the North," and "natural resources and development."

The Director of the Agriculture Branch went to the conference as the Yukon Government's representative. He reported that the conference was attended by over 200 delegates from nine countries.

The Conference resulted in the formation of a new Circumpolar Agriculture Association – a non-governmental organization recognized by the Food and Agricultural Organization (FAO) of the United Nations. The Board of Directors of the Association consists of Hans Dahle of Norway (President) and four Vice-Presidents: Valentin Gintov (Russia), Stephen Sparrow (Alaska), Thorsteinn Tommason (Iceland), and Dave Beckman (Yukon).

The Third Circumpolar Agriculture Conference is scheduled for 1998 and will be hosted by Alaska.

APPENDIX

Yukon Agricultural Publications: 1994 – 1995

Agriculture Branch, Yukon Department of Renewable Resources. *InFARMation*, (Quarterly Bulletin). Compiled and edited by T. Hill.

Ames M.A., Beckman D.B., and Smith, C.A.S., 1994. *Yukon Agriculture 1992 - 1993 State of the Industry*. Yukon Department of Renewable Resources and Yukon Soil Survey Unit, Agriculture Canada.

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Hill T., Murray D., 1994. *Observations on the Role of Legumes in Shakwak Highway Revegetation South of Haines Junction*. Yukon Department of Renewable Resources.

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Tengelis M.J., 1995. *Response from Conventional and Conservation Farming Techniques on Soil Arthropod Populations and Diversity in the Yukon*. Yukon Department of Renewable Resources.

ACKNOWLEDGMENTS

This report was written by Steven Smyth, Dave Beckman, and Scott Smith. The authors would like to thank the following contributors who provided information about their programmes and activities:

Mike Southwood: Market and Industry Service Branch, Agriculture and Agri-Food Canada, Edmonton, Alberta.

Dale Cassidy: Farm Credit Corporation, Edmonton, Alberta.

Ken Gies: Yukon Agriculture Association

Clara Sharp: 4-H Club, Whitehorse

Shirley Ford: Yukon Game Growers Association, Whitehorse

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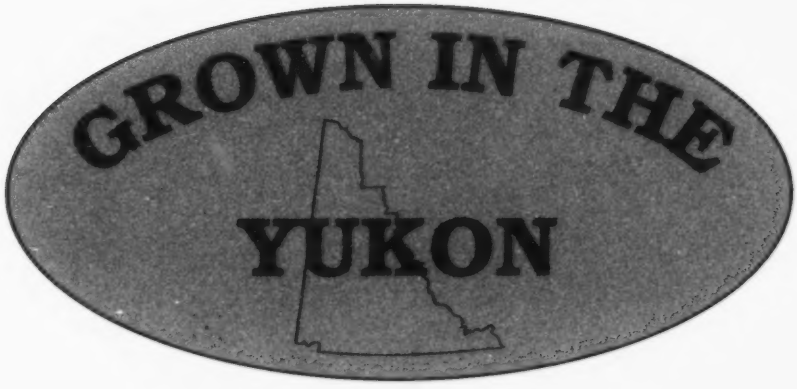

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